DISTRIBUTED BANDWIDTH ALLOCATION ARCHITECTURE

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ABSTRACT OF THE DISCLOSURE

A communications system uses a distributed architecture for allocating bandwidth to end units. In one embodiment, a Media Access Controller (MAC) processes packets received by a shared I/O port of a node. A fiber optic cable or other type of cable connects the I/O port to a plurality of end units, such as optical network units (ONUs). The ONUs request bandwidth allocations from the node and then wait to be granted access to the cable prior to transmitting their data. A Bandwidth Allocation Strategy (BAS) server (e.g., a CPU) in the node communicates with the various MACs and determines the bandwidth allocated to each ONU in response to requests by the ONUs for bandwidth. The BAS server accesses one or more algorithm processors for calculating the required access time (for a TDMA system) for each ONU allocation request.